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THE UNITED STATES
STRATEGIC BOMBING SURVEY

Reports Pacific war [illegible]

MITAKA AIRCRAFT INDUSTRIES

(Mitaka Koku Kogyo Kabushiki Kaisha)

CORPORATION REPORT NO. XVII

(Components)

Aircraft Division
February 1947

THE UNITED STATES
STRATEGIC BOMBING SURVEY

MITAKA AIRCRAFT INDUSTRIES

(Mitaka Koku Kogyo Kabushiki Kaisha)

CORPORATION REPORT NO. XVII

(Components)

AIRCRAFT DIVISION

Date of Survey:
31 October 1945

Date of Publication:
February 1947

[Washington]

U. S. SUPERINTENDENT OF DOCUMENTS
APR 8 1947

This report was written primarily for the use of the United States Strategic Bombing Survey in the preparation of further reports of a more comprehensive nature. Any conclusions or opinions expressed in this report must be considered as limited to the specific material covered and as subject to further interpretation in the light of further studies conducted by the Survey.

FOREWORD

The United States Strategic Bombing Survey was established by the Secretary of War on 3 November 1944, pursuant to a directive from the late President Roosevelt. Its mission was to conduct an impartial and expert study of the effects of our aerial attack on Germany, to be used in connection with air attacks on Japan and to establish a basis for evaluating the importance and potentialities of air power as an instrument of military strategy for planning the future development of the United States armed forces and for determining future economic policies with respect to the national defense. A summary report and some 200 supporting reports containing the findings of the Survey in Germany have been published.

On 15 August 1945, President Truman requested that the Survey conduct a similar study of the effects of all types of air attacks in the war against Japan, submitting reports in duplicate to the Secretary of War and to the Secretary of the Navy. The officers of the Survey during its Japanese phase were:

Franklin D'Olier, *Chairman.*

Paul H. Nitze, Henry C. Alexander, *Viee Chairmen.*

Harry L. Bowman,

J. Kenneth Galbraith,

Rensis Likert,

Frank A. McNamee, Jr.,

Fred Searls, Jr.,

Monroe E. Spaght,

Dr. Lewis R. Thompson,

Theodore P. Wright, *Directors.*

Walter Wilds, *Secretary.*

The Survey's complement provided for 300 civilians, 350 officers, and 500 enlisted men. The military segment of the organization was drawn from the Army to the extent of 60 percent, and from the Navy to the extent of 40 percent. Both the Army and the Navy gave the Survey all possible assistance in furnishing men, supplies, transport, and information. The Survey operated from headquarters established in Tokyo early in September 1945, with subheadquarters in Nagoya, Osaka, Hiroshima, and Nagasaki, and with mobile teams operating in other parts of Japan, the islands of the Pacific, and the Asiatic mainland.

It was possible to reconstruct much of wartime Japanese military planning and execution, engagement by engagement, and campaign by campaign, and to secure reasonably accurate statistics on Japan's economy and war production, plant by plant, and industry by industry. In addition, studies were conducted on Japan's over-all strategic plans and the background of her entry into the war, the internal discussions and negotiations leading to her acceptance of unconditional surrender, the course of health and morale among the civilian population, the effectiveness of the Japanese civilian defense organization, and the effects of the atomic bombs. Separate reports will be issued covering each phase of the study.

The Survey interrogated more than 700 Japanese military, government, and industrial officials. It also recovered and translated many documents which not only have been useful to the Survey, but also will furnish data valuable for other studies. Arrangements have been made to turn over the Survey's files to the Central Intelligence Group, through which they will be available for further examination and distribution.

MITAKA AIRCRAFT INDUSTRIES COMPANY, LIMITED

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MITAKA AIRCRAFT INDUSTRIES COMPANY, LIMITED

HE CORPORATION AND ITS IMPORTANCE IN THE AIRCRAFT INDUSTRY

ntroduction

The Mitaka Aircraft Industries Co., Ltd. Mitaka Koku Kogyo Kabushiki Kaisha), a rel- tively small manufacturing corporation in the apanese aircraft accessories structure, consist- d of three works units which produced about 0 per cent of all of Japan's aircraft engine arburetors during the years 1943 through ugust 1945.

Specifically, during 1944 and 1945, it pro- uced carburetors for approximately 50 per- ent of the Ha–45 and Ha–115 engines made Japan. In addition to carburetors, the Mitaka ompany manufactured hydraulic-pressure oil umps, fuel pumps and fuel controllers for air- raft engines, and selecting valves and hy- raulic-pressure actuating cylinders for air- raft machine guns.

The corporation dates from August 1936, hen construction of the Mitaka Works (Mi- aka Seisakusho) was completed. This works as located at Mitaka, about 10 miles west of he Imperial Palace in Tokyo. The Inazawa Vorks (Inazawa Seisakusho), at Inazawa, was ought and converted in September 1943, and he Kochino Works (Kochino Seisakusho), at ochino, in December 1943.

After 4 April 1945, dispersal to the Hachioji rea was begun but production stages had not een reached by the end of the war. The cor- oration main offices and some tool storehouses ere located in metropolitan Tokyo.

Principal manufacturing activities at branch orks were as follows:

Mitaka Works

- Ha–45 carburetors
- Ha–115 carburetors
- Hydraulic-pressure oil pumps
- Fuel pumps
- Fuel controllers

Kochino Works

- Hydraulic-pressure oil pumps
- Fuel pumps
- Fuel controllers

Inazawa Woks

- Hydraulic-pressure actuating cylinders (for loading aircraft machine guns)
- Selector valves (for aircraft machine guns)

Government controls were limited to supply of materials and labor. The Engine Section of the Aircraft Production Board of the Munitions Ministry allocated materials for the Mitaka and Kochino Works, and the Machine Gun Section of this same Board made allocations to the Inazawa Works.

Labor requirements were obtained through the Labor Section of the Welfare Department.

Prior to March 1943, production orders were received directly from the civilian aircraft manufacturers; after that date, quotas emanated from the Aircraft Production Board.

Organization and Operation

The Mitaka Co. was an independent corporation, with no lower subsidiaries or higher affiliates. President of the corporation was T. Sumu; general superintendent and secretary to the president was K. Higuchi, Columbia 1911.

Employment in the Mitaka and Inazawa Works increased steadily; in the Kochino Works, this factor remained quite constant. Peak employment reached a total of 4642 in July 1945 (Appendix A–1, 2).

In July 1943, prior to the acquisition of Kochino and Inazawa Works, work went over from a single 12-hour day shift to multiple, around-the-clock shifts. A resumé of employment data is shown in table 1.

Table 1: *Annual Employment Data, 1943-1945*

	Mitaka Works				Kochino Works				Inazawa Works			
	Number	Shifts	Day	Night	Number	Shifts	Day	Night	Number	Shifts	Day	Night
July 1943	1987	2	75%	25%	...	...	...	...	...	...	...	...
July 1944	2759	2	71	29	653	3	73%	27%	424	2	83%	17%
July 1945	3298	2	87	13	642	3	72	28	702	2	82	18

The Dispersal Program

The Mitaka Co. neither contemplated nor planned for dispersal of activities prior to 4 April 1945. On that date the Munitions Ministry ordered the Japanese aircraft industry to disperse to underground and concealed locations. Mitaka Co. drew up plans on 12 April for a 71,000 square feet underground factory and a 36,000 square feet concealed, surface factory, located at Yuimura village, about 2 miles from Hachioji (Appendices B and C).

Construction of the surface factory was begun on 25 April and three sections comprising about 18,000 square feet were completed prior to the Japanese surrender. Planning for and the surveying of the underground site was begun on 15 May, and actual construction was begun on 8 June. At the end of the war, this plant was only about 10 percent completed.

Of the corporation's approximate total of 710 machines, about 400 were dispersed to the Hachioji location. Since production of this dispersal site was never begun, this caused a marked decrease of productive capacity at the parent works.

THE AIR ATTACKS

Attack on Urban Areas

No unit of the Mitaka Co. was selected or attacked as a primary target. However, the main offices and tool warehouses located in Tokyo were partially destroyed in the night incendiary attacks of 15 April and 25 May 1945. Various buildings, records, tools, meters, and equipment were destroyed by fire.

The Mitaka, Kochino, and Inazawa Works were hit by several low-level strafing attacks and were believed to have been targets of opportunity. Damage caused by machine-gun and cannon fire was superficial and minor, only.

The Hachioji dispersal location was attacked on 2 August in the early morning incendiar Hachioji urban area attack (Twentieth Al Mission No. 306). Fifty-five machines, 33 electric motors, approximately 1,550 tools, an about 150,000 feet of electrical wiring wer destroyed. Hachioji had not, however, reache the production stage at that time.

Mitaka's works, all located in the Tokyo Yokohama district of the Kanto Plain, wer progressively affected by urban area attacks o this area. Transportation disruptions cause delays in receipts of raw materials and deliver of finished products, and as the attacks continued and increased in severity, material deliveries became increasingly difficult and erratic

PRODUCTION STATISTICS

Complete carburetors were assembled at th Mitaka Works only. Maximum capacity increased steadily from 400 units in January 194 to 700 units in January 1944. It varied onl slightly thereafter, never exceeding a maximum of 700 per month (Appendix D-1, 2).

Government-ordered production habituall exceeded production capacity. This variatio was slight through July 1944. Thereafter, it increased materially until in July 1945 ordere production exceeded plant capacity by 410 carburetors, or 68 percent more than plant capacity. This excessive demand was a result of poo planning on the part of the Munitions Ministry in failing to account for the effects on production ability of (a) the dispersal program, (b) reconversion from production of carburetors for only the Ha-115 to production of both the Ha-45 and Ha-115 carburetor, (c) poor quality of raw metal stocks received, and (d) effect of area attacks on transportation.

Actual production of carburetors varied only slightly between a low of 230 in February and March 1943 and a high of 550 in February 1944 and January, February and April of 1945.

hus, in spite of Mitaka Co.'s expansion and spersal plans, it was able to maintain a pre- tack level of production of carburetors.

Fuel pumps and fuel controllers were fabri- ted at both the Mitaka and Kochino Works. aximum productive capacity of each re- ained fairly constant except for a sharp de- ine in midsummer 1944, caused by technical d shop difficulties resulting from design anges. Fuel pump production capacity was ro for a three-month period during that time. apacity recovery was sharp thereafter in the se of fuel controllers and only gradual in the se of fuel pumps (Appendix E–1, 2).

Government orders of fuel pumps were al- ays greatly in excess of production capacity, rying from a low of 220 percent to a high of 0 percent. On the other hand, except for the ree-month conversion period in the summer 1944, production capacity of fuel controllers as greatly in excess of government demand. o explanation could be offered by the corpora- on management for failure to convert excess el controller capacity to increase the short pacity of fuel pumps.

Actual production of fuel system accessories creased steadily until March 1944 when a aximum of 1900 units was produced. Design anges caused a loss of from 700 to 1200 units r month during the six months beginning ne 1944, and as a result of subsequent air tack production never fully recovered.

In the case of fuel pumps, actual production ached maximum capacity in November 1943 d thereafter closely followed this curve. In e case of fuel controllers, actual production as governed more by the ability to produce ther than the amounts ordered. Production creased until capacity was attained in De- mber 1943 and thereafter generally followed the capacity curve until November 1944. After that date, slowdowns in material receipts caused production to drop.

Oil pumps were fabricated at both the Mitaka and Kochino Works. Government ordering was not instituted until April 1945, and when this practice was established both capacity and actual production were declining rapidly, so that quotas were never met.

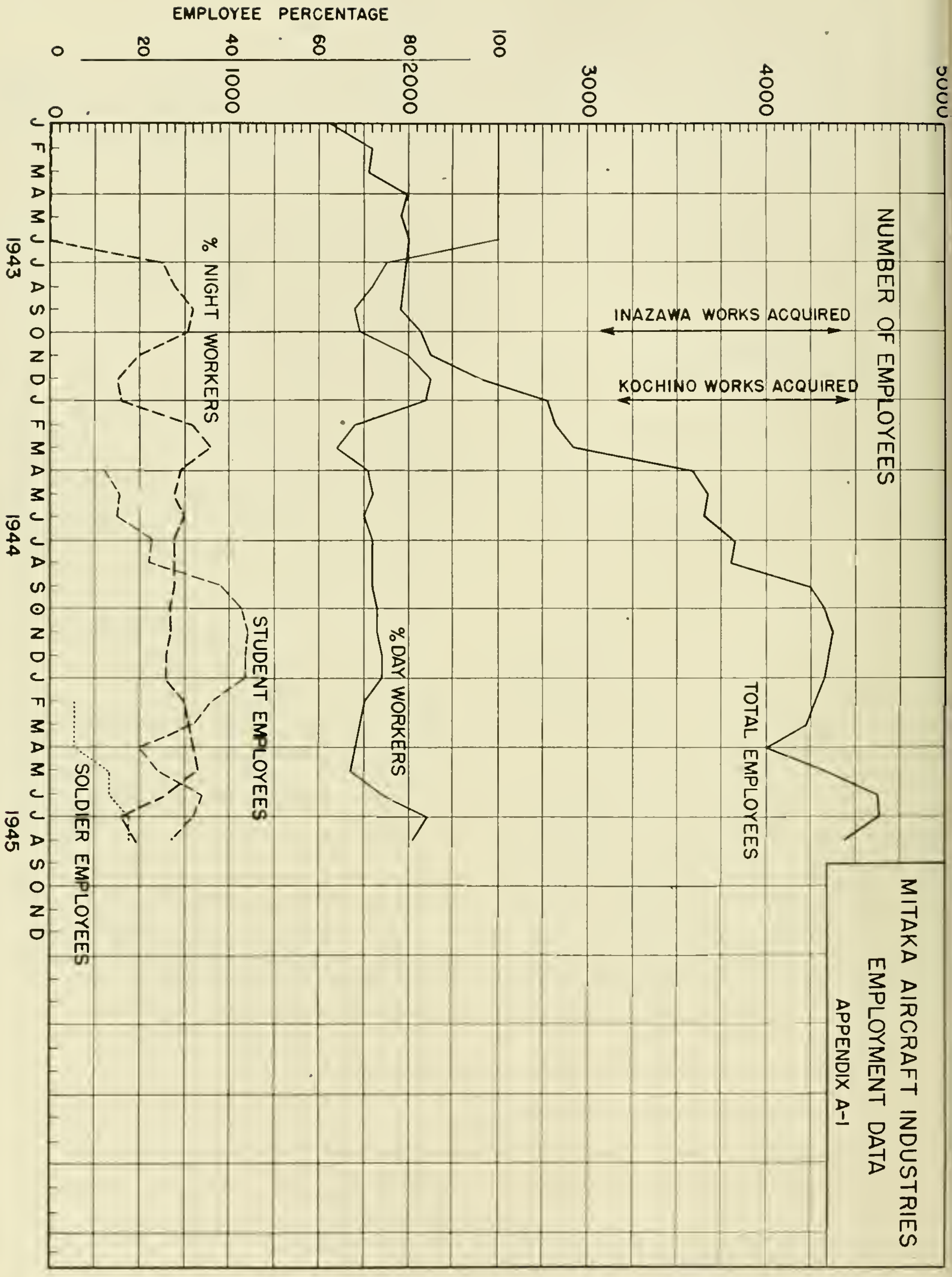
Plant capacity for oil pumps increased sharply in September 1943, maintained a steady rate of 1500 units per month thereafter until December 1944, when air attack indirect effects caused a steady decline except during the month of May (Appendix F–1, 2).

Hydraulic-pressure oil pump production reached a peak of 2100 in September 1944, surpassing the theoretical rated maximum possible production of 1500 for this corporation. Corporation officials were unable to explain the reason for the frequent excess of actual production over the maximum possible during 1944 and 1945 (Appendix F–1, 2).

EVALUATION OF PREATTACK INTELLIGENCE

Joint Target Group information on the Mitaka Co. was uncertain and incomplete. No information existed on: (a) the Kochino or Inazawa Works, (b) dispersal activities, (c) analysis of the Mitaka Co. as a seperate entity, or (d) products manufactured.

Joint Target Group Information analyzed the Mitaka Co. as a part of Shoda Aircraft (Shoda Hikoki), located at Mitaka. The deduction was correctly drawn, in the analysis, that this works occupied a relatively unimportant position in the Japanese aircraft industry.



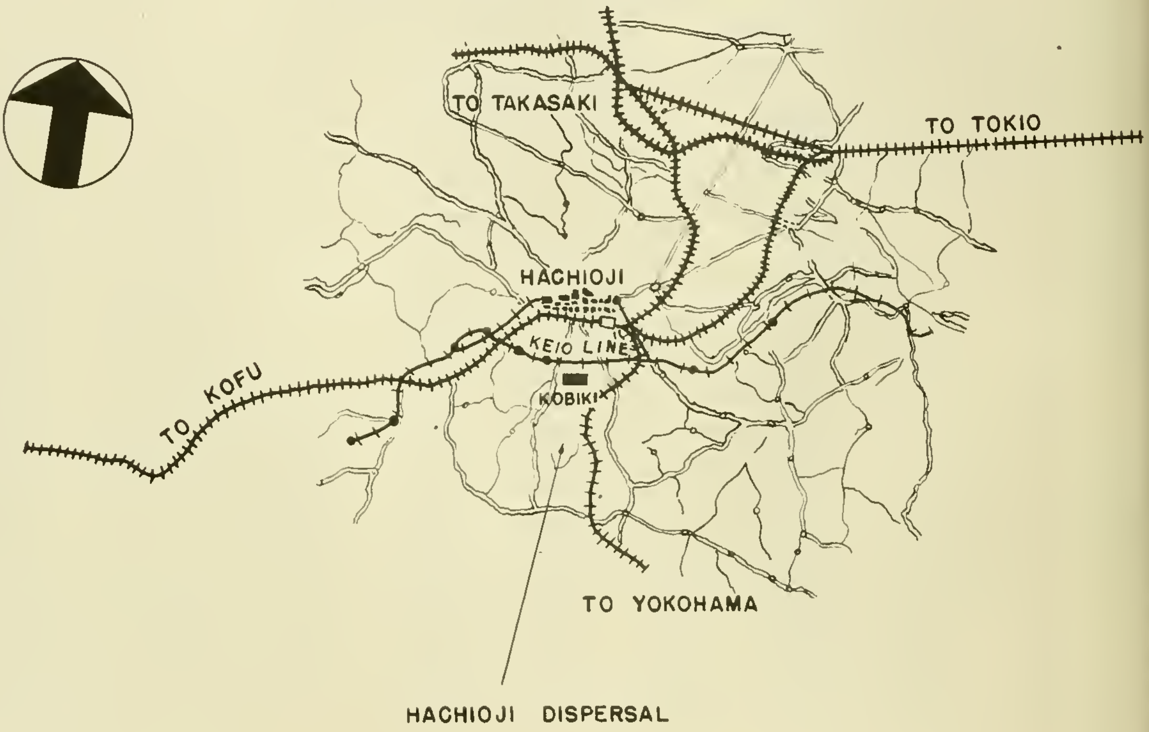
MITAKA AIRCRAFT INDUSTRIES
EMPLOYMENT DATA
APPENDIX A-1

MITAKA APPENDIX A-2

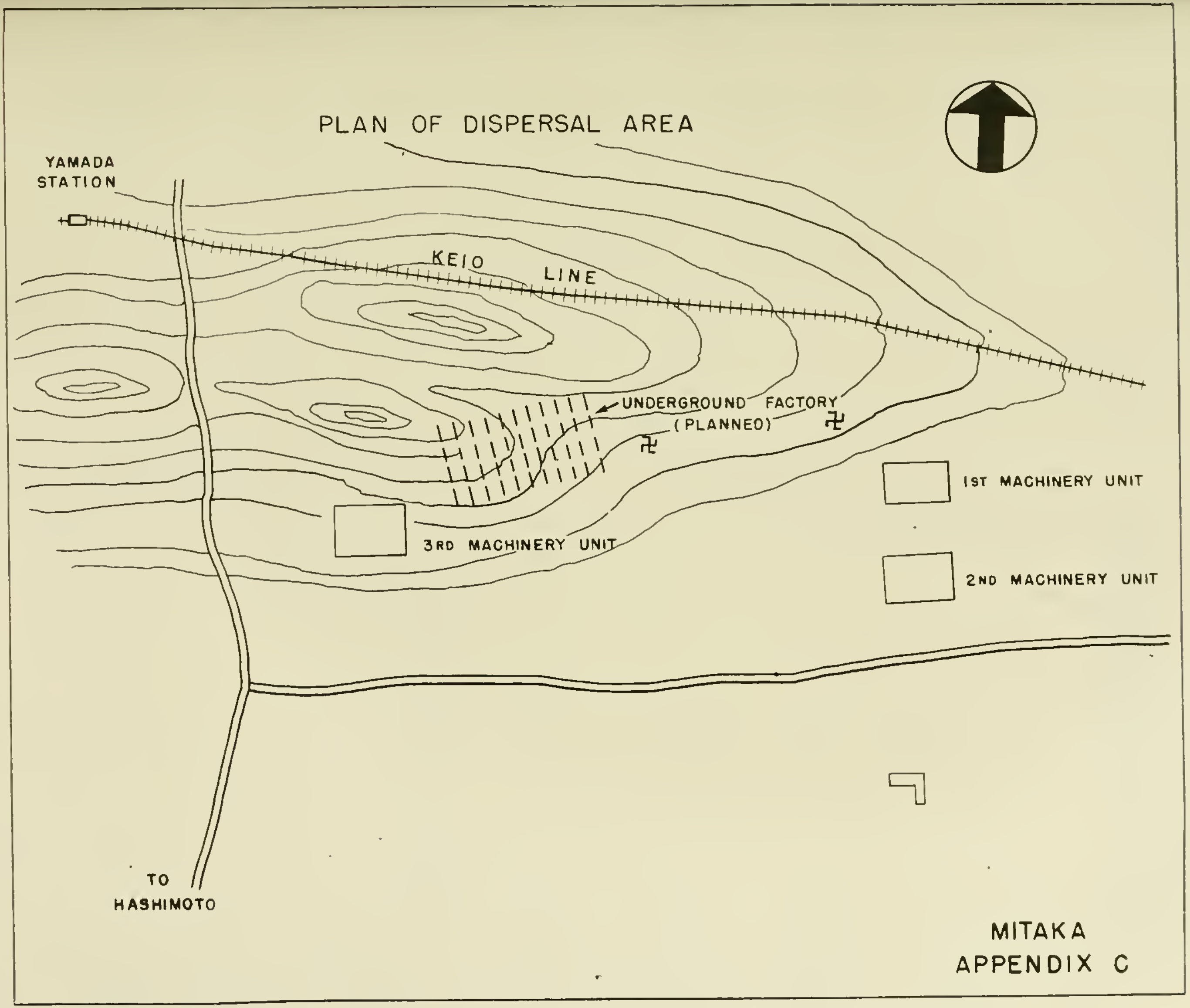
EMPLOYMENT DATA, 1943–45

	Regular employees	Soldier	Students	Day workers		Night workers		Total
				Number	Per cent	Number	Per cent	
January 1943	1,590			1,590	100			1,590
February	1,798			1,798	100			1,798
March	1,782			1,782	100			1,782
April	1,980			1,980	100			1,980
May	1,959			1,959	100			1,959
June	1,995			1,995	100			1,995
July	1,987			1,487	75	500	25	1,987
August	1,976			1,416	72	560	28	1,976
September	1,960			1,340	68	620	32	1,960
October	2,068			1,432	69	636	31	2,068
November	2,137			1,717	80	420	20	2,137
December	2,403			2,043	85	360	15	2,403
January 1944	2,759			2,329	84	430	16	2,759
February	2,809			1,903	68	906	32	2,809
March	2,913			1,867	64	1,046	36	2,913
April	3,310		298	2,557	71	1,051	29	3,608
May	3,300		387	2,655	72	1,032	28	3,687
June	3,279		377	2,567	70	1,089	30	3,656
July	3,260		576	2,778	72	1,058	28	3,836
August	3,245		576	2,741	72	1,080	28	3,281
September	3,306		951	3,065	72	1,192	28	4,257
October	3,282		1,040	3,155	73	1,167	27	4,322
November	3,274		1,093	3,186	73	1,181	27	4,367
December	3,261		1,091	3,216	74	1,136	26	4,352
January 1945	3,235		1,094	3,207	74	1,122	26	4,329
February	3,248	120	901	3,003	70	1,266	30	4,269
March	3,302	120	809	2,916	69	1,315	31	4,231
April	3,385	120	494	2,734	68	1,265	32	3,999
May	3,413	320	600	2,883	67	1,450	33	4,333
June	3,439	320	856	3,421	74	1,194	26	4,615
July	3,407	440	795	3,896	84	746	16	4,642
August	3,326	440	683	3,600	81	849	19	4,449

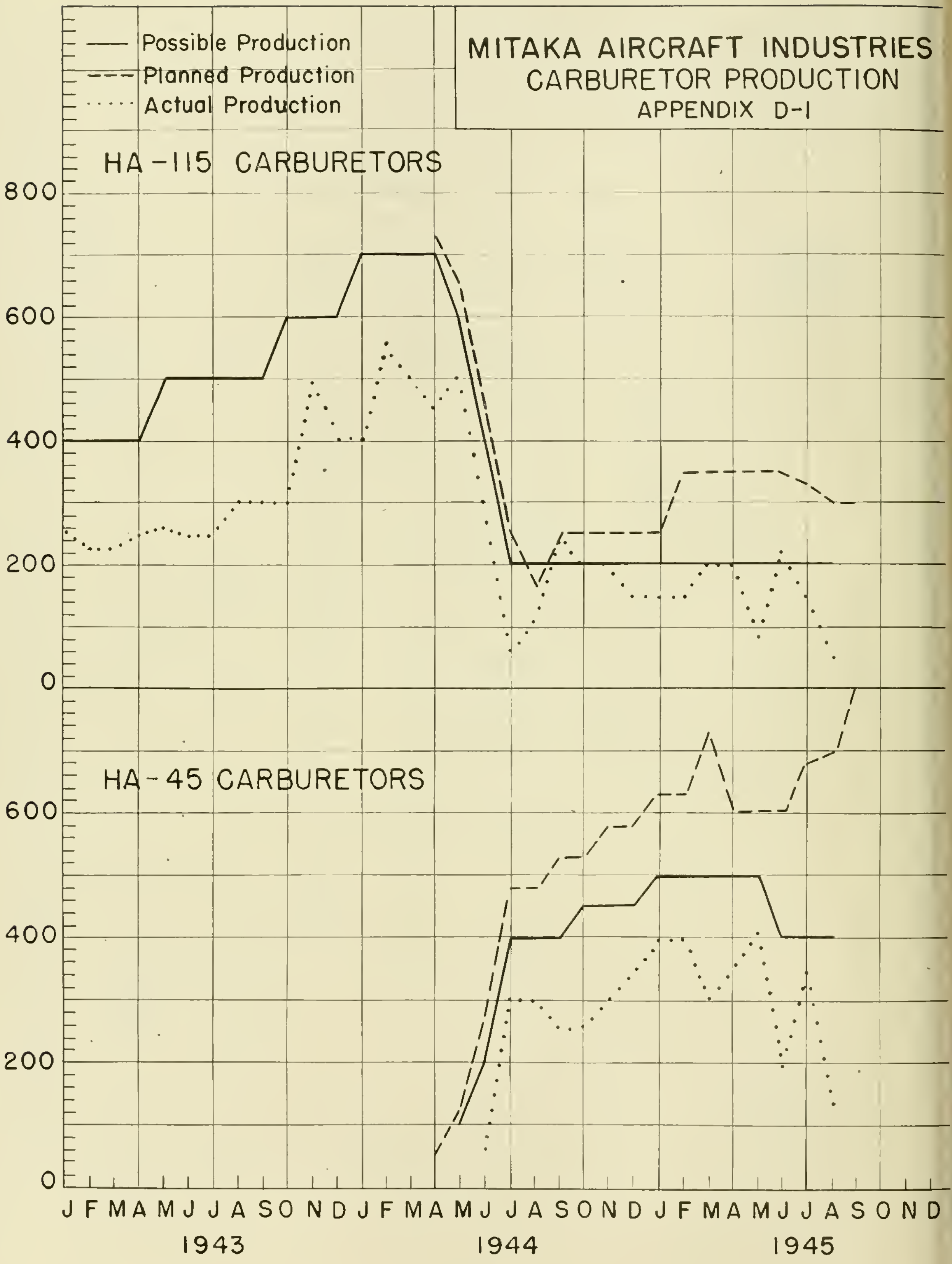
MAP OF DISPERSAL



MITAKA
APPENDIX B


PLAN OF DISPERSAL AREA

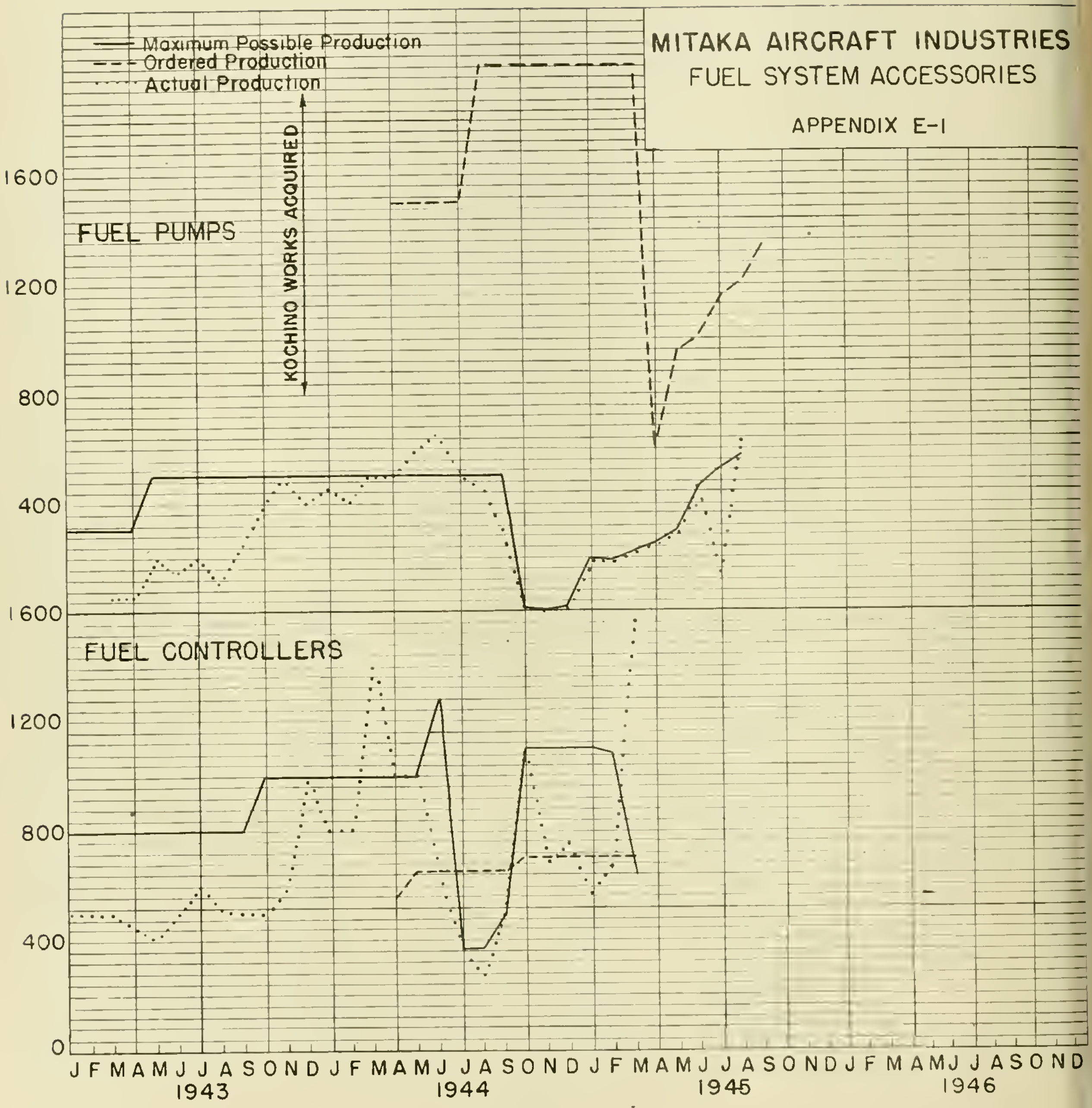
MITAKA
APPENDIX C


MITAKA AIRCRAFT INDUSTRIES
CARBURETOR PRODUCTION
APPENDIX D-1
Possible Production
Planned Production
Actual Production
HA-115 CARBURETORS
HA-45 CARBURETORS
800
600
400
200
0
600
400
200
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1943
1944
1945

MITAKA APPENDIX D–2

CARBURETOR PRODUCTION, 1943–45

	HA–45 carburetors			HA–115 carburetors		
	Maximum possible production	Planned production	Actual production	Maximum possible production	Planned production	Actual production
January 1943				400		250
February				450		230
March				400		230
April				400		250
May				500		260
June				500		250
July				500		250
August				500		300
September				500		300
October				600		300
November				600		500
December				600		400
Total				5,950		3,520
January 1944				700		400
February				700		550
March				700		500
April		50		700	730	450
May	100	120		600	650	500
June	200	280	60	400	450	300
July	400	480	300	200	250	50
August	400	480	300	200	170	100
September	400	530	250	200	250	250
October	450	530	250	200	250	200
November	450	580	300	200	250	200
December	450	580	350	200	250	150
Total	2,850	3,630	1,810	5,000	3,250	3,650
January 1945	500	630	450	200	250	150
February	500	630	400	200	350	150
March	500	730	300	200	350	200
April	500	600	350	200	350	200
May	500	600	410	200	350	90
June	400	600	200	200	350	220
July	400	680	345	200	330	150
August	400	700	140	200	300	55
Total	3,700	5,170	2,595	1,600	2,630	1,215
Grand total	6,550	8,800	4,405	12,550	5,880	7,885

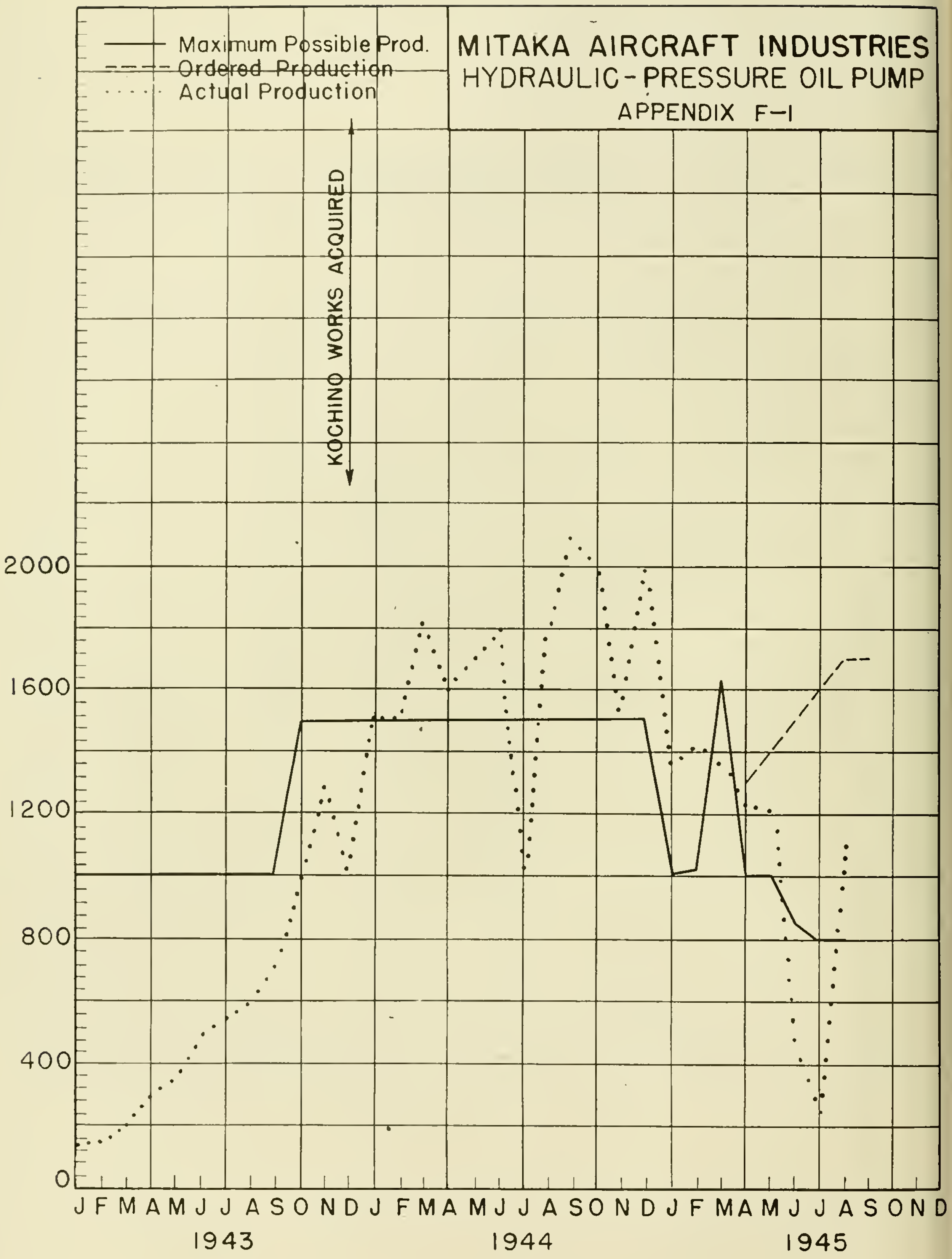


MITAKA AIRCRAFT INDUSTRIES
FUEL SYSTEM ACCESSORIES
APPENDIX E-1

MITAKA APPENDIX E–2

PRODUCTION OF FUEL SYSTEM ACCESSORIES, 1943–45

	Fuel pumps			Fuel controllers		
	Maximum possible production	Planned production	Actual production	Maximum possible production	Planned production	Actual production
January 1943	300	...	...	800	...	500
February	300	...	...	800	...	500
March	300	...	50	800	...	500
April	300	...	50	800	...	450
May	500	...	200	800	...	400
June	500	...	150	800	...	500
July	500	...	200	800	...	600
August	500	...	100	800	...	500
September	500	...	250	800	...	500
October	500	...	400	1,000	...	500
November	500	...	500	1,000	...	600
December	500	...	400	1,000	...	1,000
Total	5,200	...	2,300	10,200	...	6,550
January 1944	500	...	450	1,000	...	800
February	500	...	400	1,000	...	800
March	500	...	500	1,000	...	1,400
April	500	1,500	500	1,000	550	1,000
May	500	1,500	600	1,000	650	1,000
June	500	1,500	650	1,276	650	631
July	500	1,500	500	369	650	369
August	500	2,000	459	369	650	276
September	500	2,000	300	507	650	507
October	12	2,000	12	1,106	700	1,106
November	...	2,000	...	1,105	700	672
December	25	2,000	25	1,106	700	760
Total	4,537	16,000	4,387	10,838	5,900	9,321
January 1945	200	2,000	167	1,107	700	566
February	184	2,000	184	1,083	700	673
March	225	2,000	225	635	700	1,559
April	249	600	249	...	...	...
May	292	950	292	...	...	...
June	470	1,000	470	...	...	...
July	527	1,150	145	...	...	...
August	557	1,200	646	...	...	...
Total	2,674	10,900	2,378	2,825	2,100	2,798
Grand total	12,411	26,900	9,065	23,863	8,000	18,669



MITAKA AIRCRAFT INDUSTRIES
HYDRAULIC-PRESSURE OIL PUMP
APPENDIX F-I

MITAKA APPENDIX F–2

HYDRAULIC PRESSURE OIL PUMP PRODUCTION, 1943–45

	Maximum possible production	Planned production	Actual production
January 1943	1,000		150
February	1,000		150
March	1,000		200
April	1,000		300
May	1,000		350
June	1,000		500
July	1,000		550
August	1,000		600
September	1,000		800
October	1,500		1,000
November	1,500		1,200
December	1,500		1,000
Total	13,500		6,800
January 1944	1,500		1,500
February	1,500		1,500
March	1,500		1,800
April	1,500		1,600
May	1,500		1,700
June	1,500		1,800
July	1,500		1,000
August	1,500		1,800
September	1,500		2,100
October	1,500		2,000
November	1,500		1,500
December	1,500		2,000
Total	18,000		20,300
January 1945	1,000		1,350
February	1,015		1,453
March	1,683		1,283
April	1,000	1,300	1,213
May	1,003	1,400	1,203
June	850	1,500	428
July	800	1,600	245
August	800	1,700	1,056
Total	8,151	7,500	8,231
Grand total.	39,651	7,500	35,331

UNITED STATES STRATEGIC BOMBING SURVEY

LIST OF REPORTS

The following list of studies is a bibliography of completed reports resulting from the German survey. Reports numbers 1, 2, and 3 can be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C.

European War

OFFICE OF THE CHAIRMAN

1 The United States Strategic Bombing Survey: Summary Report (European War)
2 The United States Strategic Bombing Survey: Over-all Report (European War)
3 The Effects of Strategic Bombing on the German War Economy

AIRCRAFT DIVISION

(By Division and Branch)

4 Aircraft Division Industry Report
5 Inspection Visits to Various Targets (Special Report)

Airframes Branch

6 Junkers Aircraft and Aero Engine Works, Dessau, Germany
7 Erla Maschinenwerke G m b H, Heiterblick, Germany
8 A T G Maschinenbau, G m b H, Leipzig (Mockau), Germany
9 Gothaer Waggonfabrik, A G, Gotha, Germany
10 Focke Wulf Aircraft Plant, Bremen, Germany
11 Messerschmitt A G, Augsburg, Germany
  Over-all Report
  Part A
  Part B
  Appendices I, II, III
12 Dornier Works, Friedrichshafen & Munich, Germany
13 Gerhard Fieseler Werke G m b H, Kassel, Germany
14 Wiener Neustaedter Flugzeugwerke, Wiener Neustadt, Austria

Aero Engines Branch

15 Bussing NAG Flugmotorenwerke G m b H, Brunswick, Germany
16 Mittel-Deutsche Motorenwerke G m b H, Taucha, Germany
17 Bavarian Motorworks, Inc., Eisenach & Durrenhof, Germany
18 Bayerische Motorenwerke A G (BMW), Munich, Germany
19 Henschel Flugmotorenwerke, Kassel, Germany

Light Metal Branch

20 Light Metals Industry of Germany
  Part I, Aluminum
  Part II, Magnesium
21 Vereinigte Deutsche Metallwerke, Hildesheim, Germany
22 Metallgussgesellschaft G m b H, Leipzig, Germany
23 Aluminumwerk G m b H, Plant No. 2, Bitterfeld, Germany
24 Gebrueder Giulini G m b H, Ludwigshafen, Germany
25 Luftschiffbau Zeppelin G m b H, Friedrichshafen on Bodensee, Germany
26 Wieland Werke A G, Ulm, Germany
27 Rudolph Rautenbach Leichtmetallgiessereien, Solingen, Germany
28 Lippewerke Vereinigte Aluminiumwerke A G, Lunen, Germany
29 Vereinigte Deutsche Metallwerke, Heddernheim, Germany
30 Duerener Metallwerke A G, Duren Wittenau-Berlin & Waren, Germany

AREA STUDIES DIVISION

31 Area Studies Division Report
32 A Detailed Study of the Effects of Area Bombing on Hamburg
33 A Detailed Study of the Effects of Area Bombing on Wuppertal
34 A Detailed Study of the Effects of Area Bombing on Dusseldorf
35 A Detailed Study of the Effects of Area Bombing on Solingen
36 A Detailed Study of the Effects of Area Bombing on Remscheid
37 A Detailed Study of the Effects of Area Bombing on Darmstadt
38 A Detailed Study of the Effects of Area Bombing on Lubeck
39 A Brief Study of the Effects of Area Bombing on Berlin, Augsburg, Bochum, Leipzig, Hagen, Dortmund, Oberhausen, Schweinfurt, and Bremen

CIVILIAN DEFENSE DIVISION

40 Civilian Defense Division—Final Report
41 Cologne Field Report
42 Bonn Field Report
43 Hanover Field Report
44 Hamburg Field Report—Vol. I, Text; Vol. II, Exhibits
45 Bad Oldesloe Field Report
46 Augsburg Field Report
47 Reception Areas in Bavaria, Germany

EQUIPMENT DIVISION

Electrical Branch

48 German Electrical Equipment Industry Report
49 Brown Boveri et Cie, Mannheim Kafertal, Germany

Optical and Precision Instrument Branch

50 Optical and Precision Instrument Industry Report

Abrasives Branch

51 The German Abrasive Industry
52 Mayer and Schmidt, Offenbach on Main, Germany

Anti-Friction Branch

53 The German Anti-Friction Bearings Industry

Machine Tools Branch

54 Machine Tools & Machinery as Capital Equipment
55 Machine Tool Industry in Germany
56 Herman Kolb Co., Cologne, Germany
57 Collet and Engelhard, Offenbach, Germany
58 Naxos Union, Frankfort on Main, Germany

MILITARY ANALYSIS DIVISION

59 The Defeat of the German Air Force
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